

BOCAGIANA

Museu Municipal do Funchal

Madeira

7.XII.1991

No. 148

**CONTRIBUTION TO THE KNOWLEDGE OF THE LARVAE OF
SCALE INSECTS: I - *DIASPIS (ADISCASPIS) BARRANCORUM*
LINDINGER**

By LORENZO *, C. D., C. PRENDES *, R. CABRERA *,
F. M. HODGSON *, & A. M. COELLO *

With 1 figure & 1 plate

RESUMEN. Este trabajo es un estudio original de la larva del coccido *Diaspis (Adiscaspis) barrancorum* LINDINGER, especie endémica de Canarias que vive, produciendo daño, sobre *Euphorbia regis-jubae* y *Euphorbia canariensis*. *D. (A.) barrancorum*, pertenece a la subfamilia Diaspidinae, dentro de la familia Diaspididae.

Palabras clave: Coccido, *Diaspis*, *Euphorbia*, Islas Canarias.

ABSTRACT. The present account is based on an original study of the larvae of the coccid *Diaspis (Adiscaspis) barrancorum* LINDINGER, a Canarian endemic species which causes considerable damage to *Euphorbia regis-jubae* and *Euphorbia canariensis*. *D. (A.) barrancorum*, belongs to the subfamily Diaspidinae, within the Diaspididae.

Key words: coccid, *Diaspis*, *Euphorbia*, Canary Islands.

* Departamento de Biología Vegetal, Fitopatología, Universidad de La Laguna, La Laguna Tenerife, Islas Canarias.

INTRODUCTION

Diaspis (Adiscaspis) barrancorum LINDINGER, belongs to the subfamily Diaspidinae, within the family Diaspididae (Homoptera, Coccoidea).

GOMEZ-MENOR GUERRERO distinguishes within this subfamily the tribe Diaspidini which in turn is composed of two subtribes: Lepidosaphedidi and Diaspididi, to which the species in question belongs.

D. (A.) barrancorum, is endemic to the Canary Islands, the adult having been first described by LINDINGER in 1911. GOMEZ-MENOR GUERRERO redescribed the species in 1967, for the first defining the *Adiscaspis* subgenus, considering this species the type of the said subgenus which differs from the type genus because of the lack of the perivular ceriferous discs.

Regarding its distribution, GOMEZ-MENOR GUERRERO (1967) points out that LINDINGER mentions its presence on stalks and leaves of *Euphorbia regis-jubae* in Puerto de la Cruz and Tacoronte on the same plant, but only on the stalks, finally pointing out that both he and LINDINGER found it also in Orotava (Tenerife).

A. CARNERO HERNANDEZ and PÉREZ GUERRA (1986) consider it a rare species. In our case (1987-88) we have found it in relatively large numbers, not only on *Euphorbia regis-jubae* as also on *Euphorbia canariensis*. Furthermore, we have detected its presence in almost the whole island of Tenerife.

MATERIAL AND METHODS

The material studied was eggs, larvae and second larvae of *D. (A.) barrancorum* as the adults have been described by J. M. GOMEZ-MENOR (1967).

The insects in the laboratory were kept on live plant material.

The method of preparation is the commonly employed for Diaspidids (GOMEZ-MENOR, 1940), i.e. Scanning electron microscopy.

RESULTS

Eggs

The egg is elongated in shape with rounded ends. The colour is yellowish-brown. The eggs are not laid, but remain inside the female until the larvae emerge.

Larvae

The pear-shaped larvae have developed antennae and feet (Fig. 1a, Pl. 1a)

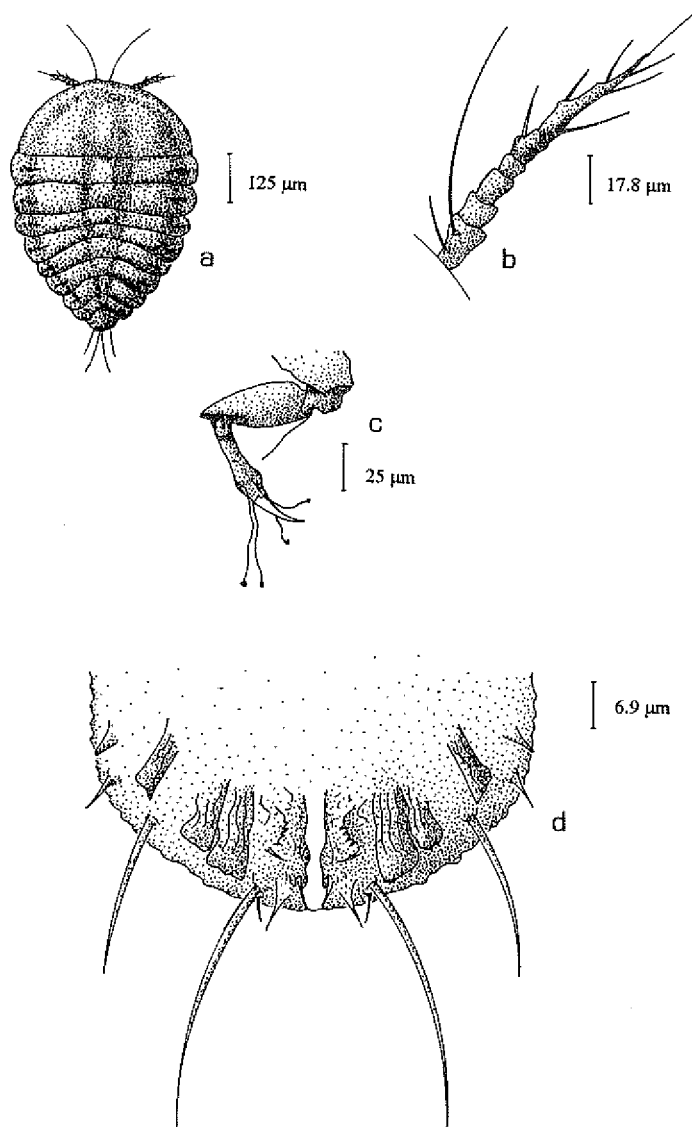


Fig. 1 - *Diaspis (Adiscaspis) barrancorum*. a - larva, b - antenna, c - paw, d - pygidium.

The undifferentiated head is joined to the thorax by its base. The antennae, eyes and mouth are located on the head. The antennae which are in the anterior part, are made up of six joints. The basal one being wider than the rest (Fig. 1b, Pl. Ib). Two hairs can be seen in them, one of which is only a little shorter than the antennae. The second and third segment are quite similar to each other. The fourth is slightly shorter. The fifth segment is about the same length as the second and third, bears one hair. The sixth segment is about half the length of the antennae. In it there is one terminal hair and five to six scattered on the surface below this.

On the anterior margin of the head and between the feelers, there are two long hairs.

The eyes are situated on either side of the antennae, slightly separated and behind their insertion.

The mouth parts are made up by the rostrum in the form of a chitinous basal armour from which emerge four thin filaments and a piece with only one joint, the chin.

The body consists of three thoracic segments, each one of which has a couple of legs, the last two (meso and metathorax) with two stigmas each on the fore part.

There is one pair of legs for each of the three segments of the thorax, simetrically disposed. They are made up of: A well developed, conically shaped coxa; the trochanter, of an almost triangular shape and only one hair - which almost reaches the length of the femur; the femur, long, strong and well developed; the tibia, small; the tarsus consisting of only one joint, long, with a dent in the inside anterior area in which a spine is inserted and at its end with a strong nail. At the base of the dent, two digitules and another two more in the anterior zone, near the base of the nail (Fig. 1c, Pl. Ic).

The abdomen is made up of six segments, the last of which is the pygidium.

The pygidium has, on each side, a knife-shaped comb, followed by a long bristle. Inside, near the base of the bristle, a short hair. Outside at the base of the bristle and also near the comb, several short hairs. Following two small shovels the first one larger and more externally placed than the second. Another bristle follows, shorter than the first. A still smaller shovel, more internally situated than the first. Near the forward and at the edge, a short hair, and finally, a comb more internally situated than the hair, but less than the small shovel. Although this also has a knife-like shape, its end is less pointed than that of the first (Fig. 1d, Pl. Id).

Second larvae

On finishing its development the larvae fixes onto a host plant, undergoing its first change. It now transforms into a second larva which hardly differs from the adult female.

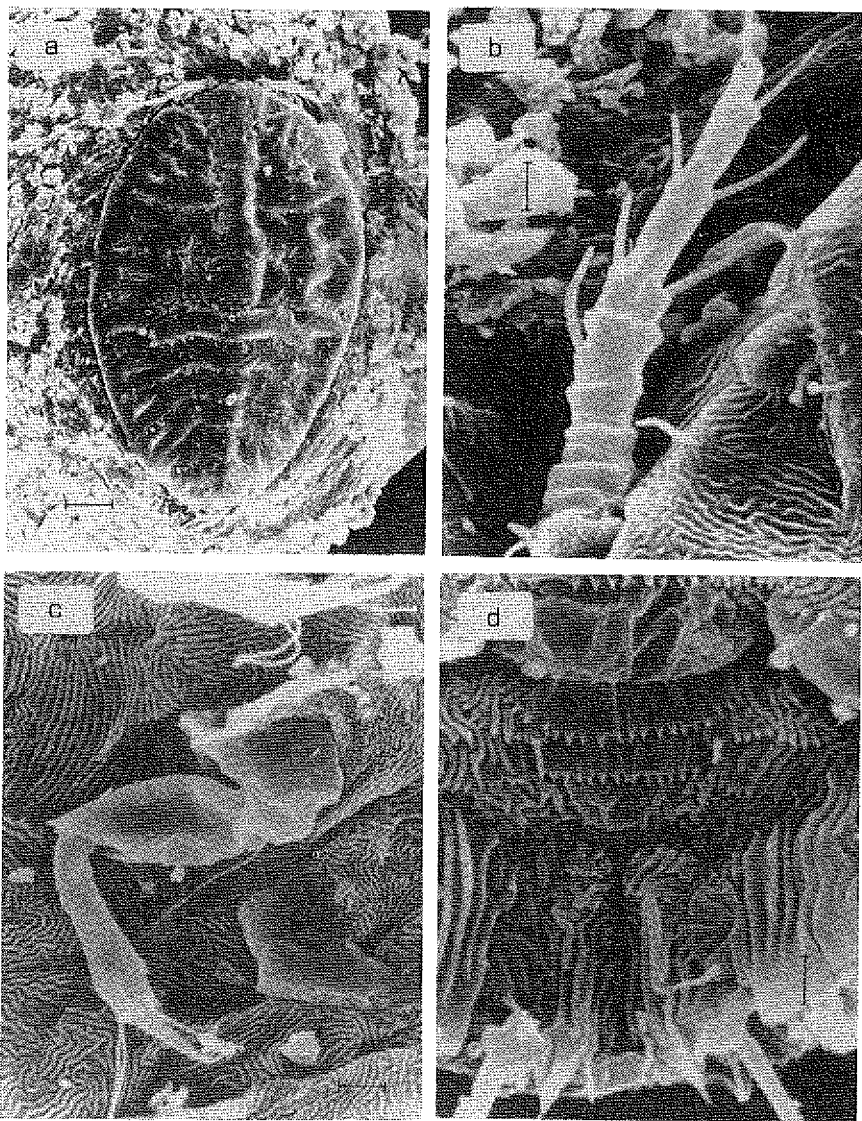


Plate I-*Diaspis (Adiscaspis) barrancorum*. a - larva, SEM (scale= $55.5\ \mu$); b - antenna, SEM (scale= $8.9\ \mu$); c - paw, SEM (scale= $15.6\ \mu$); d - pygidium, SEM (scale= $4.1\ \mu$).

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Received, 30th October 1990.

BOCAGIANA

Museu Municipal do Funchal

Madeira

22.II. 1963

No. 9

NOTES ON TWO MADEIRA PLANTS

By N. C. H. KRAUSS ¹

The composite plant «Abundância» (*Eupatorium adenophorum* Spreng.) has been known in Madeira for many years. On July 24, 1962 I collected a second species of *Eupatorium*, *E. riparium* Schultz-Bip., confirmed by the Royal Botanic Garden, Kew, England. This was growing in association with *E. adenophorum* in a damp area along a path near Monte. Both these species of *Eupatorium* are native to Mexico. I have seen *E. riparium* growing along a small stream in a ravine at the Desierto de los Leones, Distrito Federal, in the hills above Mexico City. Both species are pests in grazing land in Hawaii.

On November 7, 1960 I collected specimens of *Ulex minor* Roth (determined by Royal Botanic Garden, Kew) in the grassy hills above Ribeiro Frio. Since then I have seen it also at Encumeada and Santo da Serra. *Ulex europaeus* L. has been known in Madeira for a long time, but I have not seen any records of *U. minor*.

1) Entomologist, Hawaii State Department of Agriculture, Honolulu 14, Hawaii, U. S. A.